

1,223 Views | 84 CrossRef citations to date | 0 Altmetric

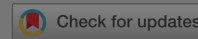
Articles

Reduction of power consumption and carbon footprints by applying multi-objective optimisation via genetic algorithms

Cheng-Hsiang Liu & Ding-Hsiang Huang

Pages 337-352 | Received 24 May 2012, Accepted 26 Jun 2013, Published online: 12 Aug 2013

Cite this article <https://doi.org/10.1080/00207543.2013.825740>



Sample our Engineering & Technology Journals >> Sign in here to start your access to the latest two volumes for 14 days

Full Article

Reprints

Abstract

Firms he

improve

scheduli

enviro

problem

(2) a trip

batch-pr

shop att

power. S

problem

provided

algorithm II (NSGA-II) is implemented, which identifies the set of approximate efficient

We Care About Your Privacy

We and our 855 partners store and access personal data, like browsing data or unique identifiers, on your device. Selecting "I Accept" enables tracking technologies to support the purposes shown under "we and our partners process data to provide," whereas selecting "Reject All" or withdrawing your consent will disable them. If trackers are disabled, some content and ads you see may not be as relevant to you. You can resurface this menu to change your choices or withdraw consent at any time by clicking the ["privacy preferences"] link on the bottom of the webpage [or the floating icon on the bottom-left of the webpage, if applicable]. Your choices will have effect within our Website. For more details, refer to our Privacy Policy. [Here](#)

We and our partners process data to provide:

...

I Accept

Reject All

Show Purpose



schedules to both multi-objective scheduling problems. Moreover, an adaptive multi-objective genetic algorithm (AMGA) is developed to generate the reference Pareto front, which validates the results that are obtained using NSGA-II. Results of this study demonstrate both the effectiveness of AMGA in converging to the true Pareto-optimal set and the efficiency of NSGA-II.

Keywords: scheduling carbon footprint total weighted tardiness multi-objective genetic algorithms

Related Research Data

Metaheuristic multiobjective optimisation approach for the scheduling of multiproduct batch chemical plants

Source: Elsevier BV

A framework to minimise total energy consumption and total tardiness on a single machine

Source: Informa UK Limited

Focusing in by-product recovery and waste minimization in batch production scheduling

Source

Environ

Unite

Source

Class

Source

An ef

Source

A M

S

Optim

Source

Green

times

Source

Hybrid

for Bi

Source: Multidisciplinary Digital Publishing Institute



Calculation of optimum cutting parameters based on minimum energy footprint

Source: Elsevier BV

A new approach to scheduling in manufacturing for power consumption and carbon footprint reduction

Source: Elsevier BV

Integrating carbon footprint into supply chain management: the case of Hyundai Motor Company (HMC) in the automobile industry

Source: Elsevier BV

A fuzzy bi-objective flexible cell scheduling optimization model under green and energy-efficient strategy using Pareto-based algorithms: SATPSPGA, SANRGA, and NSGA-II

Source: Springer Science and Business Media LLC

Sustainability provisions in the bus-scheduling problem

Source: Elsevier BV

Methods for Integrating Energy Consumption and Environmental Impact Considerations into the Production Operation of Machining Processes

Source: Chinese Journal of Mechanical Engineering

A fast and elitist multiobjective genetic algorithm: NSGA-II

Source: Institute of Electrical and Electronics Engineers (IEEE)

Production scheduling optimisation with machine state and time-dependent energy costs

Source: HAL CCSD

Multi

Source

Non-c

power

Source

Mode

optim

Source

M

So

Deca

and i

Source

Multi

lot st

Source

Oper

equipment



Related research

People also read

Recommended articles

Cited by
84

Information for

Authors

R&D professionals

Editors

Librarians

Societies

Opportunities

Reprints and e-prints

Advertising solutions

Accelerated

Corporate

Keep up

Register to
by email



Copyright

Accessib

Registered
5 Howick Pl

Open access

Overview

Open journals

Open Select

Dove Medical Press

F1000Research

Help and information

Help and contact

Newsroom

